Amendments to the Drawings:

Please enter the attached drawing Replacement Sheet, which is being provided with a complete set of the drawings. The replacement sheet includes a revised FIG. 11, which is revised to replace "XOR 218" with "XOR 332".

REMARKS

Claims 1-2, 4-25, and 27-33 are in the application of which claims 1, 14, and 28 are in independent form.

The Examiner is thanked for his careful attention to the specification and drawings. Various amendments (described below) are made to the specification and drawings to correct minor mistakes. No new matter is added.

Drawings. The drawings are objected to because the number "218" in FIG. 11 should be "332." The correction is made in a replacement sheet included with the complete set of drawings.

Abstract.

The abstract (paragraph at page 26) is amended to remove the sentence "Still other embodiments are described and claimed." However, it should be clear that the disclosure and inventions are not restricted by the details of the abstract.

Disclosure.

The paragraph at page 2, lines 4-7, is amended to include reference to application no. 10/625,944 and its filing date.

The specification is amended in the paragraphs at page 16, lines 12-16; page 16, lines 17-25; page 16, line 26 - page 17, line 3; page 17, lines 16-20, and page 17, lines 21-25 to correct mistakes in the description.

The Office action mentions that correction is needed for the paragraph at page 17, lines 11-15. The undersigned attorney was unable to identify a problem with this paragraph. The Examiner is requested to call the undersigned attorney and seek an Examiner's amendment for any defect in it.

Claim objections. Claims 7 and 12-33 are objected to because of informalities.

Claims 7 and 13 are amended to insert an "a" before ¾.

Claim 12 is not amended as suggested since the "data output signal" in claim 12 is the same as the "data output signal" signal in claim 1. However, claim 12 further limits claim 1.

Claims 14, 15, 17, 22, 23, 26, 27, and 28 are objected to for using the phrase "cycle encoded signal" rather than "full cycle encoded signal." The specification, page 5, lines 11-19, states:

"The inventions described herein include a system having a transmitter that encodes a data signal into a cycle encoded signal (CES). * * * In a CES, at least some of the data time segments do not include more than one cycle of a particular encoding signal. In a full CES, no data time segment

has more than one cycle of an encoding signal. In a partial CES, some data time segments have more than one cycle of an encoding signal, and other data time segments do not have more than one cycle of an encoding signal."

Consistent with the specification, claims 14, 15, 17, 22, 23, 26, 27, and 28 recite "cycle encoded signals" without specifying whether they are full cycle encoded signals or partial cycle encoded signals. Dependent claims 16 and 30 further limit claims 14 and 28 by stating that the cycle encoded signal is a full cycle encoded signal.

Since the specification indicates there may be "cycle encoded signals" that are not "full cycle encoded signals," it is believed that claims 14, 15, 17, 22, 23, 26, 27, and 28 do not have to be restricted to including "full cycle encoded signals."

Claim 27, lines 2, is amended to recite "an end".

Claims 16 and 30 are not canceled since they further limit claims 14 and 28.

Since the independent claims are addressed above, it is believed that dependent claims need not be further addressed.

35 U.S.C. 112, first paragraph. Claims 2, 6, 8, 16-21, 24-25, 27, and 31-32 are rejected under 35 U.S.C. 112, first paragraph, as being non-enabling.

The Office action, p. 5, states that claims 2, 6, 8, 16-21, 24-25, 27, and 31-32 do not correspond to the disclosure of the drawings as described in the specification. More particularly, the Office action states the limitations of claims 2, 6, 16, 19, 24, 27, and 31 do not correspond to any of the waveforms shown in FIGS. 5-7, 11, and 13 as described in the specification. This rejection is traversed as follows.

Claim 2 is illustrated in FIG. 5. Claim 2 recites the following with references to FIG. 5 in brackets:

"wherein within some of the data time segments the full cycle encoded signal is the inverse of the cycle encoded signal within others of the data time segments [SF* in time segment 6 is the inverse of SF in time segment 4; SF/2* in time segment 7 is the inverse of SF/2* in time segment 5] and wherein within some of the data time segments the full cycle encoded signal constitutes one cycle [SF and SF*] and within others of the data time segments the full cycle encoded signal constitutes a half cycle [SF/2 and SF/2*].

Claims 16 and 27 are similar to claim 2 (discussed above).

Claim 6 is illustrated in FIGS. 11 and 12. Claim 6 states: "wherein the logic circuit responds

to changes the received signal at the beginning of a data time segment, but not to mid-data time segment changes in the received signal." This is illustrated in FIGS. 10 and 11, and discussed in the specification at page 16, lines 17-23:

At time t3.5, the 1 T delay signal is falling and Q2 is 0 so SR falls. However, Q1 is 1 which forces SF to remain 1 even though the 1 T delay signal is falling. According, neither flip-flop 336 or 338 clocks data and Q1 remains 1 and Q2 remains 0. As such, receiver 316 keeps the output control signal or data from changing during mid-segment transitions by blocking OR gate 330 from changing SF when Q1 is 1 and the 1 T delay signal falls (as in the case of t3.5 and t4.5) or by blocking NOR gate 326 from changing SR when Q2 is 1 and the 1 T delay signal rises (as in the case of t6.5). (Emphasis added.)

Claims 19, 24, and 31 are similar to claim 6 (discussed above).

The objection to claim 8 is not understood. FIG. 10 illustrates the limitations of claims 1, 3, 4, and 8. It is not understood why it matters whether FIG. 4 also illustrates the limitations of claim 8. Further, the undersigned attorney is not aware of any statute or Patent and Trademark Office rule that requires that a single figure illustrate all limitations of a claim or a chain of claims. The same applies to claims 25 and 32.

Claim 17 is amended to recite: "a delay circuit to provide delayed signals which are delayed versions of the received signal and a logic circuit to provide a data out signal responsive to the delayed signals which ~~recovers~~ includes recovered data from ~~another~~ the cycle encoded signal.

35 U.S.C. 112, second paragraph. Claims 4-10, 12-13, 15, 17-21, 23-25, and 27-33 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite.

As amended, claims 4, 12, 23, and 28 recite an inter-relationship between the initial receiving circuit, delay circuit and logic circuit.

Claims 6, 19, 24, and 31 each recite that the logic circuit responds to changes the received signal at the beginning of a data time segment, but not to mid-data time segment changes in the received signal. This is illustrated in FIGS. 10 and 11, and discussed in the specification at page 16, lines 17-23:

At time t3.5, the 1 T delay signal is falling and Q2 is 0 so SR falls. However, Q1 is 1 which forces SF to remain 1 even though the 1 T delay signal is falling. According, neither flip-flop 336 or 338 clocks data and Q1 remains 1 and Q2 remains 0. As such, receiver 316 keeps the output control signal or data from changing during mid-segment transitions by blocking OR gate 330 from changing SF when Q1 is 1 and the 1 T delay signal falls (as in the case of t3.5 and t4.5) or by blocking NOR gate 326 from changing SR when Q2 is 1 and the 1 T delay signal rises (as in the

case of t6.5). (Emphasis added.)

Claims 15 is basically reciting the definition of a full cycle encoded signal (see, specification, page 5, lines 16-17).

Claim 27 describes different wave patterns as shown in FIGS. 5 and 6.

Claim 20 is amended to remove the word "the" before "first and second flip-flops."

Since the independent claims are clarified, it is believed that the dependent claims are also clarified.

35 U.S.C. 102(b). Claims 1-2 and 14-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Pfiffner (U.S. Patent No. 5,623,518).

The Office action, page 7, indicates that claims 3 and 26 would be allowable if rewritten in independent form and if the objections set forth in the Office action were overcome.

Claim 1 is amended to include the limitations of claim 3, and claim 14 is amended to include the limitations of claim 26.

Allowance of the application is respectfully requested.

Respectfully submitted,

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